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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/802,945	03/18/2004	Timothy E. Macfadyen	118834	5161
25944	7590	02/27/2006	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			HANAN, DEVIN J	
			ART UNIT	PAPER NUMBER
			3745	

DATE MAILED: 02/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/802,945

Applicant(s)

MACFADYEN, TIMOTHY E.

Examiner

Devin Hanan

Art Unit

3745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 4, 5, 7, 8 and 10 is/are rejected.
- 7) ☒ Claim(s) 3, 6 and 9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims 1 and 3-10 have been considered but are moot in view of the new ground(s) of rejection. The 35 USC 112 rejection of claim 1 has been withdrawn.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4-5, and 7-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Newill (U.S. Patent 3,767,949).

Newill discloses an air cooled bearing (52) with means for imparting a swirl component (vanes 67 rotate to swirl passing air) to cooling air flowing towards (vanes 78a draw air through bearing 52) a bearing, the means for imparting a swirl component comprising at least one vane.

Regarding claim 4, Newill discloses the vanes are rotatable with respect to a bearing support means (76 rotates) of the bearing.

Regarding claim 5, Newill discloses the vanes are connected to a rotatable shaft (vanes 76 are on the shaft) supported by the bearing.

Regarding claim 7, Newill discloses a cage (well known in the art to be inherent with bearings, applicant's specification page 3 last paragraph) for retaining rolling elements and the means for imparting a swirl component to the cooling air is configured such that the swirl direction is the same (bearing 52 and vanes 76 are on the same shaft, therefore rotating in the same direction making the swirl the same).

Regarding claim 8, Newill discloses the rotational velocity of the cage and the swirl velocity are equal (bearing 52 and vanes 76 are on the same shaft, rotating in the same direction at the same velocity, so the swirl is the same velocity).

Claims 1, 4-5, and 7-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Forrest (U.S. Patent 2,950,943).

Forrest discloses an air cooled bearing (17 or 18) with means for imparting a swirl component (30) to cooling air flowing towards a bearing, the means for imparting a swirl component comprising at least one vane (col. 2 last paragraph through col 3. first paragraph).

Regarding claim 4, Forrest discloses the vanes are rotatable with respect to a bearing support means (30 is on shaft 27) of the bearing.

Regarding claim 5, Forrest discloses the vanes are connected to a rotatable shaft (30 is on shaft 27) supported by the bearing.

Regarding claim 7, Forrest discloses a cage (well known in the art to be inherent with bearings, applicant's specification page 3 last paragraph) for retaining rolling elements and the means for imparting a swirl component to the cooling air is configured such that the swirl direction is the same (bearing 18 and vanes 30 are on the same shaft, therefore rotating in the same direction making the swirl the same).

Regarding claim 8, Forrest discloses the rotational velocity of the cage and the swirl velocity are equal (bearing 18 and vanes 30 are on the same shaft, rotating in the same direction at the same velocity, so the swirl is the same velocity).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wood (U.S. Patent 2,709,567) in view of Forrest.

Wood discloses a bearing in a bearing with a means for imparting a swirl component (slinger disc 26) to cooling air in a gas turbine engine, but does not specifically disclose that cooling air is flowing towards the bearing.

However, Forrest teaches of locating the vane where it can circulate air in the bearing housing for the purpose of increasing heat transfer (col. 3 line 2).

Since Forrest and Wood are both related to the bearing cooling art, the purpose disclosed by Forrest would be recognized in the pertinent art of Wood. It would have been obvious to one having ordinary skill in the art at the time the invention was made to mount the vanes of Wood to a location between bearings where it can swirl air towards the bearing as taught by Forrest for the purpose of increasing heat transfer (col. 3 line 2).

Allowable Subject Matter

Claims 3, 6 and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Devin Hanan whose telephone number is 571-272-6089. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look can be reached on 571-272-4820. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3745

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Devin Hanan
Patent Examiner
Art Unit 3745



EDWARD K. LOOK
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700

2/21/06